PATIENT SATISFACTION WITH THE BUTTONHOLE TECHNIQUE*

Dejanilton Melo da Silva[1], Jonas Lírio Gurgel[2], Cristina Lavoyer Escudeiro[3], Helen Campos Ferreira[3]

[1]Nurse. Master in Nursing. Universidade Federal Fluminense. Niterói, Rio de Janeiro, Brazil.
[2]Physical Education Professional. PhD in Biomedical Gerontology. Physical Education Professor at the Universidade Federal Fluminense. Niterói, Rio de Janeiro, Brazil.
[3]Nurse. PhD in Nursing. Professor at the Aurora de Afonso Costa Nursing School, at the Universidade Federal Fluminense. Niterói, Rio de Janeiro, Brazil.

ABSTRACT: A descriptive and exploratory study was conducted with the aim to investigate the benefits of the buttonhole technique for arteriovenous fistula cannulation, during hemodialysis, in the perception of patients submitted to it. Interviews were conducted with fifteen patients from a hemodialysis clinic in the state of Rio de Janeiro, in May 2014, and four themes were identified from content analysis: Pain; Safety and Quality; Aesthetics; and Well-being. The buttonhole technique has contributed satisfactorily and significantly to the quality of life of patients. They associated this technique with low levels of pain; safety and quality - despite not being able to qualify treatment due to the lack of knowledge about the functioning of the process; the preservation of aesthetics and body image; and the sense of well-being. These results point to the importance of valuing the opinion and the subjects' participation in choosing their treatment.
DESCRIPTORS: Chronic renal insufficiency; Renal dialysis; Arteriovenous fistula; Nursing.

SATISFAÇÃO DOS PACIENTES COM A TÉCNICA DE BUTTONHOLE

RESUMO: Estudo descritivo e exploratório que objetivou investigar os benefícios da técnica de botoeira para canulação de fístula arteriovenosa, durante hemodiálise, na percepção de pacientes submetidos a ela. Foram realizadas entrevistas com quinze pacientes de uma clínica de hemodiálise, localizada no estado do Rio de Janeiro, em maio de 2014, e identificadas quatro temáticas a partir da análise de conteúdo: Dor; Segurança e Qualidade; Estética; e Bem-estar. A técnica de botoeira veio contribuir de forma satisfatória e significativa na qualidade de vida dos pacientes. Eles associaram essa técnica ao baixo nível de dor; à segurança e qualidade, embora não saibam qualificar o tratamento em razão do desconhecimento do funcionamento do processo; à preservação da estética e imagem corporal; e à sensação de bem-estar. Esses resultados apontam para a importância da valorização da opinião e participação do sujeito na escolha de seu tratamento.
DESCRITORES: Insuficiência renal crônica; Diálise renal; Fístula arteriovenosa; Enfermagem.

SATISFACCIÓN DE LOS PACIENTES CON LA TÉCNICA DE BUTTONHOLE

RESUMEN: Estudio descriptivo y exploratorio cuya finalidad fue investigar los beneficios de la técnica de Buttonhole para captar fístula arteriovenosa, durante hemodiálisis, en la percepción de pacientes sometidos a ese proceso. Fueron realizadas entrevistas con quince pacientes de una clínica de hemodiálisis, ubicada en el estado de Rio de Janeiro, en mayo de 2014, e identificadas cuatro temáticas con base en el análisis de contenido: Dolor; Seguridad y Cualidad; Estética; y Bienestar. La técnica de Buttonhole contribuyó de forma significativa para la cualidad de vida de los pacientes. Ellos asociaron esa técnica al bajo nivel de dolor; a la seguridad y cualidad, a pesar de que no sabían cualificar el tratamiento en razón del desconocimiento de cómo funciona el proceso; a la preservación de la estética e imagen corporal; y a la sensación de bienestar. Esos resultados apuntan para la importancia de valorar la opinión y participación del sujeto en la elección de su tratamiento.
DESCRIPTORES: Insuficiencia renal crónica; Diálisis renal; Fístula arteriovenosa; Enfermería.

*Article extracted from the thesis "Estudo retrospectivo da técnica de botoeira em hemodiálise aplicada em usuários do Sistema Único de Saúde (SUS)". Universidade Federal Fluminense, 2014.

Corresponding author:
Dejanilton Melo da Silva
Universidade Federal Fluminense
Tv. Alzira Vargas, 48 - 24130210 - Niterói, RJ, Brasil
E-mail: melo_269@hotmail.com

Received: 28/05/2015
Finalized: 07/08/2015

INTRODUCTION

The ideal technique to puncture the arteriovenous fistula (AVF) in patients undergoing chronic hemodialysis (HD) has not yet been established in Brazil. However, the most commonly used cannulation technique is the rope-ladder[1]. For its effectiveness, venipuncture is performed in a new site, using cutting needles, in each dialysis session[2]. However, it is associated with the formation of aneurysms and stenosis due to repetitive trauma to the endothelium, whose progression compromises the longevity of vascular access[1].

More recently, an alternative technique has been encouraged for being associated with fewer complications in patients undergoing hemodialysis, as it makes use of blunt needles, inserted in a tunnel previously established based on the puncture in the same place for about ten cannulations, making use of a cutting needle. It is the buttonhole technique, which was initially used for patients with short AVF and low resistance to pain caused by the rotation of punctures[3-4].

The literature points to several benefits of the buttonhole technique rather than the traditional, such as: less pain sensation during cannulation; greater ease in the insertion of needles into the cannulation site; possibility of self-cannulation; and less probability of developing hematomas[4-5].

Considering the high rates of prevalence and incidence of chronic kidney disease (CKD) in Brazil and, therefore, the increasing number of patients who depend on renal replacement therapies to survive, it becomes necessary to investigate new therapeutic possibilities considering the preservation of the autonomy and well-being of patients who depend on them[6-7].

In this sense, and taking into account the lack of studies on this topic, especially at a national level, the aim of this study was to investigate the benefits of the buttonhole technique for AVF cannulation in the perception of patients submitted to it.

The relevance of this research lies in helping health professionals and managers in the decision-making concerning the techniques associated with the treatment of CKD that meet the needs of patients in all aspects.

METHOD

A descriptive and exploratory study, with a qualitative approach, was conducted in a private hemodialysis center, of outpatient care, located in São Gonçalo, in the state of Rio de Janeiro, Brazil.

The study subjects were 15 patients, of both sexes, with chronic kidney disease, undergoing the buttonhole technique for cannulation of arteriovenous fistula for hemodialysis treatment, with a minimum age of 18 years.

Data were collected by means of interviews using a questionnaire with open-ended questions regarding the profile and the opinion of patients about the buttonhole technique. The interviews took place in May 2014, during the morning and the afternoon, in the treatment room, during hemodialysis, in order not to hinder the progress of the service routine. They were recorded individually in a digital equipment, and then transcribed on the same day.

The data were analyzed by thematic content analysis[8] through the following steps, for the operationalization of this technique: organization of the material; exploratory reading; categorization by similarity; and subsequent interpretation, inference, and critical analysis of the material.

Before collecting the information, the subjects were invited and informed about the objectives of the research, and on the need to sign a Free and Informed Consent Form, assuring them the right of access to data, anonymity in the presentation of results and the guarantee of being able to leave the research if they wished.

RESULTS

Of the 15 respondents, nine were men and six were women, aged between 20 and 60 years, with a mean of two years of hemodialysis therapy. Six of them mentioned knowing the traditional puncture technique, besides the buttonhole technique.

Based on five open-ended questions concerning the use of the buttonhole technique, patients spoke freely, and four categories of analysis were structured: Pain; Safety and Quality; Aesthetics; and Well-being.

Pain

Expressive lines mentioned by patients in relation to the moment of puncture showed satisfaction with the technique in question regarding pain:

It does hurt, but only at the moment it is punctured, afterwards it doesn't hurt anymore. (Patient 8)

I do not feel pain. (Patient 12)

No problem. Very good! I don't even feel pain. (Patient 13)

Those who had already undergone the traditional technique reported that the use of the puncture in different places causes more pain than when punctured in only one place (tunnel):

As you puncture it with the cutting needle in the same place, you start to no longer feel pain. It would be different if you were using a puncture in a different location every day. That hurts more! (Patient 10)

You barely feel any pain, even less when you self-cannulate. Anyway, it is far less pain than that from punctioning each day in a different spot. (Patient 15)

Safety and Quality

Respondents appear to be secure about the buttonhole technique and they evaluated it as being of better quality when compared to the traditional technique:

I think the button provides more security, more firmness. (Patient 2)

This one I think is good. I think it's a good thing. [...] It is a thousand times better! (Patient 4)

I came to this clinic because I knew they had the button technique. It is the best one. [...] I don't want to do the traditional technique. I don't even want to know about the traditional. I don't! (Patient 15)

Aesthetics

Most patients highlighted the importance of aesthetics, and pointed to the importance of preserving the body image:

I think it's really good. It's not like the patients who get lumps on their arms. (Patient 3)

Yes, it brings back the aesthetics, because I walk on the street and people walking by my side can't tell I do hemodialysis. I don't have those bruises, those big bumps people keep starring at. Never happened to me. (Patient 6)

At least my arms are not lumpy, right? Those big, ugly arms. (Patient 8)

We don't get the lumps that former patients have, it reduces bruising and you do better dialysis. (Patient 9)

It doesn't leave that scar, that lump. Here at least aesthetics influences. (Patient 11)

It doesn't cause those bruises. I see many people who have that lump on their arm, and I don't! I've been doing it for three years and, thank God, I don't! (Patient 14)

Well-being

The feeling of well-being of a chronic disease carrier results from a combination of factors that involves treatment, acceptance and stability of the disease, support network, autonomy and others. Regarding the treatment of CKD, therapeutic techniques can have a major influence, since they can trigger undesirable aesthetic manifestations, pain, difficulty in maintaining daily activities, among others. In this perspective, when asked about the overall feeling of well-being after starting treatment through the buttonhole technique, patients, in their majority, reported feeling well, such as in the following speeches:

I'm feeling very well. I'm a whole other person, you know? (Patient 3)

I feel much better. I think it's better than the catheter. (Patient 5)

I feel good. It's smooth. (Patient 6)

At first I used the catheter, so there were five awful months. I didn't shower properly, I walked with difficulty. Anyway, after starting to use the botton, I lead a normal life. (Patient 10)

I feel good. Well, comparing how I was and how I am today, I feel good. (Patient 14)

DISCUSSION

The interviews point to the satisfaction of CKD patients on hemodialysis with the buttonhole technique when it comes to pain, safety and quality, preservation of aesthetics and well-being. This perception was apprehended both by those who know only this technique and for those who had previously undergone the traditional technique: the rope-ladder.

These are important data, since patient satisfaction with the therapeutic approach influences on compliance and, therefore, on health indicators related to the control of the disease, especially with respect to CKD and its treatment through hemodialysis, essential for the survival of patients[9].

At this juncture, the evaluation of patients'

perception with their treatment can provide important information for the reorganization of services and decision-making regarding the therapeutic and related techniques.

The buttonhole technique, although first described in the late 70s[4], is still not widely used in health care, since it represents, in the short-term, higher costs related to materials for the technique execution and staff training, besides being poorly discussed and studied and, therefore, less known.

International studies point to the supremacy of this technique when compared with the traditional, as regards less time spent on hemostasis, less risk of infiltrations, bruises, and aneurysms[1,2,10]. And, as pointed out by patients in this study, cannulation by the buttonhole technique represents a sense of reduced pain[3,11].

In a study with 16 patients undergoing buttonhole, pain intensity was evaluated using a numerical scale[0-10]. During the tunneling stage with a cutting needle, the median pain intensity index was 4, and in the puncture phase with a blunt needle, the median was 2[1]. Similar results were reported in other studies[12-13].

On the other hand, results of a comparative study between the two techniques pointed to pain levels referred to as mild in both groups, however, patients undergoing buttonhole experienced more pain, but less need for local anesthetic cream use[14].

The patients interviewed in this study also suggested that the buttonhole technique proves to be effective and safe, although they were not able to qualify treatment due to the lack of knowledge about the functioning of the process. On this track, some studies point to lower rates of complications related to the buttonhole, such as bruises and infiltrations, suggesting greater efficiency, effectiveness and safety of this technique when compared to the rope-ladder method[1,4-5].

Some complications related to AVF can trigger aesthetic changes in the punctured member, causing self-image issues, shame, prejudice and depression, which can have negative effects on the well-being and the quality of life of patients[15]. In this study, the puncture in the buttonhole was related, by the respondents, to less likely changes in body image and the maintenance of most activities of daily living; perceptions that can contribute to adherence to treatment.

For an effective treatment, CKD carriers must follow strict recommendations which involve changing habits, especially eating habits and those related to medication intake and attendance to hemodialysis sessions, which usually need to be carried out three times a week. These patients are prone to adverse events related to therapy, besides psychosocial problems inherent to life changes, that may affect family, work, love life, and self-perception, given the possibilities of image change, less autonomy and less independence to develop activities of daily living[3,9-16].

In this sense, it is necessary to value the subject's opinion; evaluate therapeutic actions through sensitive listening to contribute to the understanding of the daily needs of people with CKD[16], understanding that the care provided to users of hemodialysis units must follow an expanded attention perspective contemplating their health needs, since it is the scenario of potentialities for the practice of health comprehensiveness[17].

FINAL CONSIDERATIONS

The purpose of this study was to understand the perception of kidney disease carriers undergoing the buttonhole technique for fistula cannulation during hemodialysis. The testimonials reveal that the buttonhole technique has contributed significantly to the satisfaction and the quality of life of patients. They associated this technique with low levels of pain, safety and quality, the preservation of aesthetics and body image, and with a sense of well-being. These results point to the importance of valuing the opinion and the subjects' participation in choosing their treatment.

This study is limited in the depth of the discussion, given the lack of literature that considers the perception of patients regarding hemodialysis treatment. However, it can support new studies that evaluate the featured cannulation technique, in order to contribute to the practice of nursing and the success of therapy.

REFERENCES

1. Castro MCM, Silva CF, Souza JMR, Assis MCSB, Aoki MVS, Xagoraris M, et al. Punção da fístula arteriovenosa com a técnica em casa de botão com agulha romba. J. Bras. Nefrol. [Internet] 2010;32(3) [acesso em 10 nov 2014]. Disponível: http://dx.doi.org/10.1590/S0101-28002010000300010

2. Muir CA, Kotwal SS, Hawley CM, Polkinghorne K,

Gallagher MP, Snelling P, et al. Buttonhole cannulation and clinical outcomes in a home hemodialysis cohort and systematic review. Clin. J. Am. Soc. Nephrol. [Internet] 2014;9(1) [acesso em 16 mai 2015]. Disponível: https://dx.doi.org/10.2215/CJN.03930413

3. Silva GST, Silva RA, Nicolino AM, Pavanetti LC, Alasmar VL, Guzzardi R, et al. Experiência inicial com a Técnica de buttonhole em um centro de hemodiálise Brasileiro. J. Bras. Nefrol. [Internet] 2010;32(3) [acesso em 03 mar 2011]. Disponível: http://dx.doi.org/10.1590/S0101-28002010000300006

4. Twardowski Z, Kubara H. Different sites versus constant sites of needle insertion into arteriovenous fistulas for treatment by repeated dialysis. Dial Transplant 1979;(8):978-80.

5. Ball LK. A Técnica de buttonhole para canulação de fístula arteriovenosa. Nephrol. Nurs. J. [Internet] 2006;33(3) [acesso em 03 mar 2011]. Disponível: http://www.nipro.com.br/wp-content/themes/nipro/catalogos/artigo_Dull.pdf

6. Sesso RC, Lopes AA, Thomé FS, Lugon JR, Watanabe Y, Santos DR. Relatorio do Censo Brasileiro de Dialise Cronica 2012. J. Bras. Nefrol. [Internet] 2014;36(1) [acesso em 18 jun 2015]. Disponível: http://dx.doi.org/10.5935/0101-2800.20140009

7. Mendonça AEO, Dantas JG, Andrade DA, Segato CT, Torres GV. Perfil sociodemográfico e clínico de idosos submetidos à Hemodiálise. Cogitare Enferm. [Internet] 2015;20(1) [acesso em 16 mai 2015]. Disponível: http://dx.doi.org/10.5380/ce.v20i1.37080

8. Bardin L. Análise de conteúdo. São Paulo: Edições 70; 2011.

9. Silva GM, Gomes IC, Machado EL, Rocha FH, Andrade EIG, Acurcio FA, et al. Uma avaliação da satisfação de pacientes em hemodiálise crônica com o tratamento em serviços de diálise no Brasil. Physis. [Internet] 2011;21(2) [acesso em 16 mai 2015]. Disponível: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-73312011000200013

10. Pueyo CG, Navarrete IG, Mejía CM, Blanco MG, García-Ciaño XV, Vaca JR, et al. La punción del acceso vascular en hemodiálisis es una necesidad, el método Buttonhole una opción. Rev. Soc. Esp. Enferm. Nefrol. [Internet] 2011;14(1) [acesso em 10 nov 2014]. Disponível: http://dx.doi.org/10.4321/S1139-13752011000100005

11. Atkar RK; MacRae JM. The buttonhole technique for fistula cannulation: pros and cons. Curr. Opin. Nephrol. Hypertens. [Internet] 2013;22(6) [acesso em 10 nov 2014]. Disponível: http://dx.doi.org/10.1097/MNH.0b013e328365ae9e

12. Ludlow V. Buttonhole cannulation in hemodialysis: improved outcomes and increased expense--is it worth it?. CANNT J. [Internet] 2010;20(1) [acesso em 16 mai 2015]. Disponível: http://www.ncbi.nlm.nih.gov/pubmed/20426358

13. Verhallen AM, Kooistra MP, van Jaarsveld BC. Cannulating in haemodialysis: Rope-ladder or buttonhole technique?. Nephrol. Dial. Transplant. [Internet] 2007;22(9) [acesso em 16 mai 2015]. Disponível: http://www.ncbi.nlm.nih.gov/pubmed/17557776

14. van Loon MM, Goovaerts T, Kessels AGH, van der Sande FM, Tordoir JHM. Buttonhole needling of haemodialysis arteriovenous fistulae results in less complications and interventions compared to the rope-ladder technique. Nephrol. Dial. Transplant. [Internet] 2010;25(1) [acesso em 16 mai 2015]. Disponível: http://www.ncbi.nlm.nih.gov/pubmed/19717827

15. Almeida AM, Meleiro AMAS. Depressão e insuficiência renal crônica: uma revisão. J. Bras. Nefrol. 2000;22(1):192-200.

16. Pereira LP, Guedes MVC. Hemodiálise: a percepção do portador renal crônico. Cogitare Enferm. [Internet] 2009;14(4) [acesso em 16 mai 2015]. Disponível: http://dx.doi.org/10.5380/ce.v14i4.16384

17. Fujii CDC, Oliveira DLLC. Factors that hinder of integrality in dialysis care. Rev. Latino-Am. Enfermagem. [Internet] 2011;19(4) [acesso em 18 jun 2015] Disponível: http://dx.doi.org/10.1590/S0104-11692011000400014